United States Department of Agriculture | Forest Service | Forest Pest Management NE CA Service Area | 55 So. Sacramento Street Susanville, CA 96130 916-257-2151 VOICE 916-257-6244 TTY

Lat 39.89867 Lon -120.48126

Reply To: 3420

Date: July 7, 1995

Subject: Evaluation of Ponderosa Pine Failure at Coot Bay Recreation Area, Beckwourth Ranger District (FPM Report No. NE95-11)

To: Mike Emeterio, Law Enforcement Officer

On June 20, 1995 we met with Mike Emeterio, Law Enforcement Agent, and Eileen Richmond, Recreation Officer, to examine a tree failure at Coot Bay Recreation Area, Lake Davis, Beckwourth Ranger District. The failure resulted in damage to a recreationist's vehicle. There were no occupants in the vehicle at the time of the failure. The law enforcement incident number is 3774427.

The ponderosa pine failed on June 18, 1995 at approximately 4 pm. Weather was sunny and breezy, with winds from the southwest at 20-30 mph. The area has no vehicular controls which results in dispersed parking around the trees. A cinder block restroom is located nearby. The area is used for lake access, primarily for fishing.

The failed ponderosa pine was one of three pines growing in a clump. Its dbh was 18.6 inches and height approximately 50 feet. An actual height could not be determined because the tree had been bucked and part of the top removed. There were no visible defects on the trunk above three feet from the ground. The direction of tree failure was 160°.

The failure occurred at the ground line when the tree toppled and lifted one major root out of the ground. The tree had a flat face, approximately 1 foot in size, on the side growing in contact with the other trees in the clump. A brown cubical rot was present in the butt of the tree. It extended into the tap root and up the bole at least three feet. At the three foot height two decay columns were visible on the cut surface. One was approximately 5-1/2 inches circumferentially and 2-1/2 inches radially. The second was 3-1/2 inches circumferentially and 2 inches radially and was located at the pith. There was at least 4-1/2 inches of sound wood outside of these areas of decay. An increment core of the tree was examined from the original ground line on the side 90° from the direction of fall. There was 4-1/2 inches of sound wood on the outside of the tree at this location. Examination of the underside of the failed tree revealed a dead patch of cambium and decay into the bole below the original ground line. The large root that was exposed when the tree failed was 15 inches in diameter at 2 feet from the bole. An increment core of the root at this location found 4 inches of sound wood then internal decay. The organism causing the decay was not identified from any of these locations, but based on

the tree species, geographic location, and type of decay, it was likely the fungus Phaeolus schweinitzii.

The cause of failure was a combination of butt decay, dead cambium, and multiple stems. Wind may have been a factor, but the conditions were not unusual for the area and the tree had survived much stronger winds this past winter. The amount of decay in the butt and extending into the main root, the dead face, and the lack of large lateral roots on one side of the tree finally provided insufficient support for the tree.

Based on above ground indicators, it is unlikely that this tree would have been identified as having a high likelihood of failure. All of the indicators were internal or below ground and would not have been observed during a routine hazard tree inspection. Even if decay had been suspected and the tree cored, 4 inches of sound wood at the base would have suggested a sound tree. According to Wagener, 2-1/2 to 3 inches of sound wood on a tree this size should be adequate to support it if there are no other defects. The flat face and basal wound, however, were contributing factors that reduced the strength of the tree and resulted in failure.

If you have any questions about this report, contact Sheri Smith at (916) 257-2151.

GREGG DeNITTO
Plant Pathologist
Northern CA Service Area

SHERI SMITH
Entomologist
Northeastern CA Service Area

cc: Forest Supervisor, Plumas National Forest
cc: District Ranger, Beckwourth Ranger District
cc: Eileen Richmond, Beckwourth Ranger District